

**WHAT IS CLAIMED IS:**

1. A system in a mobile network for High Rate Pack Data (HRPD) communication for transmitting packet data when inter-system handoff occurs between the mobile network for HRPD communication and a mobile network for voice communication, said system comprising:

a hybrid mobile terminal capable of communicating with both the mobile networks; and

a Packet Control Function (PCF) system for receiving packet data for transmission to the hybrid mobile terminal, dividing the received packet data to create Generic Routing Encapsulation (GRE) packet data, storing the GRE packet data, together with a GRE packet key, in an active queue, transmitting the GRE packet data to an access network, and storing packet data stored in the active queue in a dormant queue when receiving a link release message from the access network.

2. The system according to claim 1, wherein, upon receipt of the link release message including the GRE packet sequence number, the PCF system transfers packet data, corresponding to a sequence number appointed by the GRE packet sequence number, from among data for the hybrid mobile terminal stored in the active queue, and/or packet data subsequent to said packet data corresponding to the sequence number, to the dormant queue, and then destroys the active queue.

3. The system according to claim 1, wherein the PCF system transmits packet data for transmission to a mobile terminal, stored in the dormant queue, to the mobile terminal when an air link is established to the mobile terminal.

4. The system according to claim 1, wherein upon receipt of the link release message including the GRE packet sequence number, the PCF system stores packet data, which is transmitted from a Packet Data Service Node (PDSN) to the hybrid mobile terminal, sequentially in the dormant queue.

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5. A method for transmitting packet data in a Packet Control Function (PCF) system when inter-system handoff occurs between a mobile network for High Rate Pack Data (HRPD) communication and a mobile network for voice communication, said method comprising the steps of:

receiving packet data for transmission to a hybrid mobile terminal, storing the received packet data, together with a Generic Routing Encapsulation (GRE) packet header, in an active queue provided in the PCF system, and transmitting the packet data to an access network;

creating a dormant queue when receiving a link release message including a GRE packet sequence number, and storing packet data corresponding to the GRE packet sequence number, and/or packet data transmitted subsequently thereto, on the created dormant queue.

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6. The method according to claim 5, further comprising the step of:

transmitting by the PCF system, a link release complete signal for completing release of a link with the access network when receiving a link release signal including a GRE sequence number, and then releasing the link with the access network.

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7. The method according to claim 5, further comprising the step of:

destroying by the PCF system, the active queue after storing packet data of the active queue in the dormant queue.

8. The method according to claim 5, further comprising the step of:

creating and transmitting by the PCF system, a message for requesting that  
5 a service node for performing transmission of packet data to the hybrid mobile terminal to store packet data for transmission and also to switch to a standby state, after storing packet data of the active queue in the dormant queue.

9. A system in a mobile network for High Rate Pack Data (HRPD)  
10 communication for transmitting packet data when inter-system handoff occurs between a mobile network for HRPD communication and a mobile network for voice communication, said system comprising:

a hybrid mobile terminal capable of communicating with both the mobile networks; and

15 an access network for converting a Generic Routing Encapsulation (GRE) packet data received from a Packet Control Function (PCF) system to a Radio Link Protocol (RLP) packet, storing the RLP packet after adding a GRE packet sequence number to the RLP packet, transmitting the RLP packet to the hybrid mobile terminal, creating a link release message including the GRE packet sequence  
20 number of a GRE packet that has not been transmitted to the hybrid mobile terminal, upon detection of loss of an air link with the hybrid mobile terminal, and transmitting the created link release message to the PCF system.

10. The system according to claim 9, wherein upon receipt of packet data  
25 from the system, the access network stores user data added with the GRE packet

sequence number and an RLP header, so that they are matched together.

11. A method for transmitting packet data from an access network to a hybrid mobile terminal capable of communicating with a mobile network for High Rate Pack Data (HRPD) communication and with a mobile network for voice communication when inter-system handoff occurs between the two mobile networks, said method comprising the steps of:

by the access network, receiving packet data for transmission to the hybrid mobile terminal, converting the received packet data to Radio Link Protocol (RLP) data, storing the RLP data, Generic Routing Encapsulation (GRE) packet data and a GRE packet sequence number of the packet data prior to the conversion into the RLP data and an RLP sequence number in a retransmission buffer, and transmitting the received packet data to the hybrid mobile terminal according to an RLP protocol; and

when detecting air link loss during data transmission to the hybrid mobile terminal, by the access network, creating a link release message including a GRE packet sequence number of a GRE packet, which has not been transmitted to the hybrid mobile terminal, from among packet data stored in the retransmission buffer, and transmitting the created link release message to a Packet Control Function (PCF) system.